REMARKS

Applicants thank the Examiner for the Office Action of December 10, 2008. This Amendment is in full response thereto. Thus, Applicants respectfully request continued examination and allowance of the application.

By the amendments submitted herewith, the source of the Examiner's claim objection and written description rejection has been corrected and claims 10-13 have been amended to correct an inadvertent numbering mistake wherein claim 10 was previously listed twice. No new matter has been added by these amendments. Claims 5-8, 10, 11 and 13 are pending in this application.

Claim Objections

In the Office Action, the Examiner objected to claim 9 under 37 C.F.R. § 1.75(c) as failing to further limit the subject matter of the previous claim. Applicants have cancelled claim 9. Thus, the objection should be withdrawn.

Claim Rejections Under 35 U.S.C. § 112:

In the Office Action, the Examiner rejected claim 5 under 35 U.S.C. § 112(1) as failing to comply with the written description requirement because the limitation "a predetermined pressure range comprising three predetermined pressure sub-ranges" is not supported in the original disclosure. Applicants have amended claim 5 to match the claim language to that of the disclosure. Thus, the rejection should be withdrawn.

First Claim Rejection Under 35 U.S.C. § 103:

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Meyer (USPN 6,216,719) in view of Poulsen (USPN 4,657,055). Applicants respectfully traverse this rejection because (1) the combination does not render obvious all of the limitations of Applicants' independent claim 5 and (2) one of ordinary skill in the art would not be motivated to combine Meyer and Poulsen.

The Combination Does Not Teach All Limitations of Independent Claim 5

A) Programmable Logic

The combined teachings do not render obvious all of Applicants' claim limitations, even if it were obvious to combine the teachings of Meyer with those of Poulsen, which Applicants do not concede and will discuss in more detail infra. Applicants' precise programmable logic claim limitation is "said programmable controller being written with programmable logic allowing the pump to operate only when the pressure measured in the storage tank lies within one of three pressure ranges, said programmable logic adapted to:

i) compare the measured pressure to the three pressure ranges, each one of which has a minimum pressure and a maximum pressure,

ii) establish operation of the pump within one of said pressure ranges, and

iii) trigger a safety shutdown of the pump if the maximum pressure of the established range is reached within the storage tank."

To reject Applicants' programmable logic claim limitations, the Examiner states that "statements of intended use have been considered and determined not to limit the claimed invention beyond the scope of the prior art. The programmable logic of the Meyer in view of Poulsen apparatus could perform steps i, ii, and iii from claim 5 as well as the method step described in claim 10." Applicants respectfully disagree. First of all, claim 10, amended herein to claim 11, is directed to a system claim, not a method claim. Furthermore, steps i, ii, and iii are not merely statements of intended

use, but are specific requirements of Applicants' claimed programmable logic. MPEP § 2111.04 states that "claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure." In the instant claims, the claim language is not optional, but is required.

Additionally, the Meyer in view of Poulsen apparatus do not teach or suggest performing Applicants' expressly recited claim limitations. At col. 5, lines 61-63, Poulsen compares the cylinder pressure to "predetermined ranges of possible information for the type of cylinder to be filled...", not to three specific predetermined pressure ranges as Applicants' have expressly claimed. At col. 5, lines 63-68, Poulsen utilizes all of the input information, which is more than just the pressure measurement, to determine the **quantities** of acetone and residual gas which remain in the cylinder, and to determine the necessary quantities of solvent and gas which should be added to the cylinder. Therefore, Poulsen does not establish operation of the pump within one of the three pressure ranges, as Applicants have claimed, but instead performs a mathematical calculation to determine the quantities of solvent and gas that will be added to the cylinder and then operates the pump to deliver those quantities. See col. 6, lines 1-27. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulate reasoning with some rationale underpinning to support the legal conclusion of obviousness." MPEP § 2142 *citing In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). As the Examiner has failed to provide reasoning as to why the combination of Meyer and Poulsen render obvious Applicants' programmable logic claim limitations, the Examiner has failed to provide a prima facie case of obviousness.

B) Pressure Sensor

Applicants' independent claim 5 also includes the following limitation: "a pressure sensor that can be connected to a pressure tapping of the storage tank via a secondary hose, said pressure sensor adapted to measure a pressure inside the storage tank and supply the measured pressure to a programmable controller." To reject this limitation, the Examiner has cited Meyer's pressure sensor (90) (column 5, lines 4-5) that can be connected to a pressure tapping (column 4, line 66 through

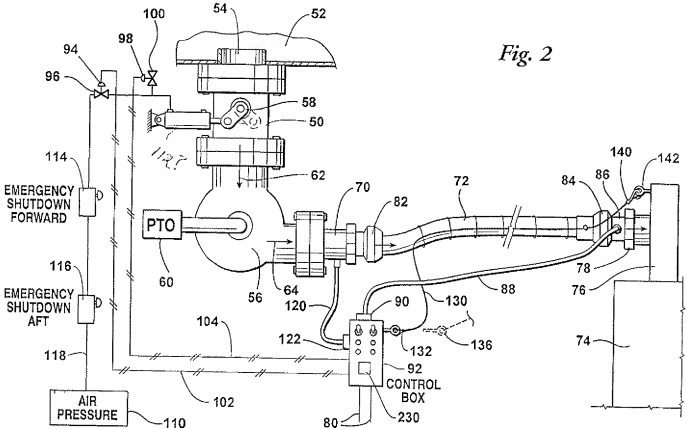

Fig. 2

column 5, line 1) located at a hose fitting (86) adjacent to a storage tank (74). At col. 4, line 66 through col. 5, line 6 (emphasis added), Meyer teaches:

> Near the hose second end 84, **a hose coupling 86** includes an opening therethrough to which will be attached a small, quarter inch pressure hose that is in fluid communication with the **pressurized fluid in the delivery hose**. When pressurized fluid fills the delivery hose, it will also enter the pressure

hose 88. The pressure hose **leads back to a first pressure sensor 90** which can detect a drop in pressure and de-energize a set of electrical contacts.

Therefore, Meyer does not teach "a **pressure sensor** that can be **connected to a pressure tapping of the storage tank** via a secondary hose, said pressure sensor **adapted to measure a pressure inside a storage tank**," as required by Applicants' claim. Instead, Meyer teaches that the pressure sensor 90 is connected to a pressure tapping of the hose coupling 86 and is adapted to detect pressure in the delivery hose.

The Examiner implies that, because the hose coupling 86 is adjacent to the storage tank, Meyer's pressure sensor 90 is functionally equivalent to Applicants' claimed pressure sensor. Applicants respectfully disagree. As indicated in the copy of Fig. 2, above, the storage tank (74) is not adjacent to the house coupling (86). Additionally, Meyer expressly teaches that the purpose of his invention is to provide an automatic safety shutoff system in the event of a rupture, severing, or uncoupling of **a delivery hose** between a cargo tank vehicle and a storage container (col. 2, lines 31-39). Meyer's pressure sensor 90 does not **measure** the pressure, but instead simply detects whether pressure is present or not. Therefore, as the presence or lack of pressure in the delivery hose is the focus of Meyer's concern, it is clear that the pressure sensor in fluid communication with the pressurized fluid in the delivery hose is not the functional equivalent of a pressure tapping on a storage tank and is not adapted to measure the pressure inside the storage tank. Thus, the Examiner should withdraw the rejection for this reason alone because Meyer fails to disclose, teach, or suggest a pressure sensor that can be connected to a pressure tapping of the storage tank where the pressure sensor is adapted to measure a pressure inside the storage tank.

In the response to the Final Office Action dated June 9, 2008, Applicants provided a reference (U.S. Pat. No. 6,354,088 to Emmer et al. ("Emmer")) showing

that the pressure measurement of a liquid dispensing line does not provide an indication of the actual pressure within a tank. In response, the Examiner states "the pressure sensor in claim 1 is not positively recited as being on the tank, merely that it can be connected to a pressure tapping of a storage tank." Applicants respectfully disagree. As stated previously, Applicants' precise claim limitation is "a pressure sensor that can be connected to a pressure tapping of the storage tank via a secondary hose, said pressure sensor adapted to measure a pressure inside the storage tank and supply the measured pressure to a programmable controller." Therefore, in addition to expressly claiming a connection to the pressure tapping of a storage tank (which is *not* Meyer's hose coupling of a supply line), the pressure sensor must be adapted to measure pressure inside the storage tank and supply the measured pressure to a programmable controller. As stated previously, Meyer expressly teaches that the referenced pressure sensor detects, but does not measure, pressure in the supply line, not the storage tank. Therefore, Meyer does not meet multiple limitations of Applicants' claim.

The Examiner then states that Emmer "discloses a pressure sensor on a fill line, not a pressure sensor on a coupling directly attached to a tank." Like Emmer, Meyer does not disclose a sensor on a coupling *directly attached to a tank*, but instead discloses a sensor connected to a pressure tapping of a hose coupling. As stated previously with reference to Figure 2, it does not appear that Meyer's hose coupling (86) is adjacent to the tank (74). Meyer further discloses, at col. 2, lines 17-19, that the hose coupling is conventionally attached to a tank via a tank coupling. Therefore, the Examiner's statement that Meyer discloses "a pressure sensor on a coupling directly attached to a tank" is inaccurate.

The Examiner has taken the position that the pressure tapping of a storage tank (74) is the same as the pressure tapping of a hose coupling (86). In response to Emmer, the Examiner has taken the position that a pressure sensor on a fill line is

different from a pressure sensor on a hose coupling, even though Meyer expressly teaches that the pressure sensor on the hose coupling is used to detect pressure in the fill line. Applicants find these two positions logically inconsistent.

Therefore, because Meyer does not teach the limitations of independent claim 5 that the Examiner has alleged, the Examiner has failed to establish a prima facie case of obviousness with respect to claim 5.

Motivation to Combine

The Examiner alleges that Meyer only fails to teach the use of programmable logic to restrict the pump from activating unless the pressure measured is within a predetermined range or multiple pressure sub-ranges. Applicants respectfully disagree. As discussed above, Meyer also fails to disclose, teach, or suggest Applicants' Programmable Logic and Pressure Sensor.

In order to compensate for Meyer's alleged failure to teach the use of programmable logic to restrict the pump from activating unless the pressure measured is within a predetermined range or multiple pressure sub-ranges, the Examiner relies on Poulsen's alleged disclosure of a cylinder filling system in which the filling operation is suspended unless the pressure in the receiving tank lies within a predetermined set of limits at col. 10, lines 9-26. Applicants respectfully disagree. Poulsen is not directed to the mere filling of cylinders, but instead, as per the title of the invention, is directed to the Filling of Acetylene Cylinders. In col. 1, lines 28-31, Poulson expressly states that acetylene gas is unstable and cannot be transported in the same manner as other industrial gases. Therefore, unlike Meyer's ability to drive a cargo truck to his customers' location, the acetylene gas cylinders of Poulson's customers must be returned to the supplier for filling. At column 10, lines 9-26, Poulson states:

> **Once the cylinder data and weight** has been accepted by the control unit 200, the operator pushes the green button 182 on the console 102 to open the valve 154 so that the pressure of the contents of the cylinder 300 can be sensed by the pressure sensor 164, displayed on the console pressure gauge 180, and inputted to the control unit 200. The control unit 200 checks the pressure signal to make certain that it falls within predetermined safe limits. If the pressure signal is acceptable, **the control unit 200 utilizes the information it has received regarding cylinder volume, tare weight and pressure, together with the temperature information inputted from the sensor 404, and determines the quantities of acetone and residual gas which remain in the cylinder 300**. The control unit 200 then determines the quantity of acetone necessary to replenish the acetone in the cylinder 300 to the desired nominal level, and the quantity of acetylene gas which is required to refill the cylinder 300.

The Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the programmable logic of the Meyer apparatus to permit the filling operation to take place only when the tank pressure lies within a predetermined range, as taught by the Poulsen reference. Applicants respectfully disagree for multiple reasons.

First of all, and as stated previously, Poulsen is directed to filling acetylene cylinders, not storage tanks. Meyer is directed to a safety system for the transfer of pressurized fluids from a cargo vehicle to a storage tank. Meyer's pressurized fluids include carbon dioxide, butane, anhydrous ammonia, and propane (col. 1, lines 17-19). At least because Poulsen expressly states that acetylene differs significantly from "other industrial gases" and cannot be transported safely in such open-chambered cylinders at col. 1, lines 28-31, one of ordinary skill in the art would have no motivation to combine the teachings of the two inventions.

Furthermore, due to the hazardous nature of acetylene, in addition to the pressure measurement performed by Poulsen in the citation quoted by the Examiner above, Poulsen requires the cylinder's data, weight, and temperature to calculate the quantities of solvent and gas to be added to the cylinder. Per col. 5, lines 43-48, the

operator cannot start the filling process until this information is entered into and accepted by Poulsen's control unit. Therefore, Poulsen does not utilize a pressure measurement alone to determine whether the filling operation can take place, but instead utilizes multiple input variables, including cylinder weight, which would be impossible for Meyer to perform due to the nature of storage tanks. As a result, at least due to the variables required by Poulsen that can not be determined in Meyer, one of ordinary skill in the art would have no motivation to combine the teachings of the two inventions.

Finally, because the Examiner has combined two references with significantly different purposes than those claimed by Applicants, Applicants submit that one of ordinary skill in the art would have no motivation to combine the two references to meet the limitations of Applicants' claims. To sustain a rejection on obviousness, the Examiner must provide some articulated reasoning with some rational underpinning. *See* MPEP § 2142 *citing In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The Examiner states that it would have been obvious to one of ordinary skill in the art to modify the programmable logic of the Meyer apparatus to permit the filling operation to take place only when the **tank pressure** lies within a predetermined range, as taught by the Poulsen reference. Applicants submit that the Examiner has not provided any rational underpinning to the motivation to combine references because Meyer does not teach measuring and is not concerned with the tank pressure, but, as stated previously, is concerned with detecting when a delivery hose ruptures, severs, or uncouples. Poulsen is only concerned with cylinder pressure (and weight and volume) because of the hazardous nature of acetylene. As it is highly unlikely that Federal regulations will change to permit the delivery of acetylene via cargo vehicle, Applicants submit that one of ordinary skill in the art would have no motivation to combine the teachings of the two references. As a result, the Examiner has failed to provide a prima facie case of obviousness.

Therefore, because one of ordinary skill in the art would not be motivated to combine Meyer and Poulsen and the combination fails to teach all of the limitations of independent claim 5, the Examiner has failed to establish a prima facie case of obviousness with respect to claim 5. Accordingly, Applicants respectfully request that claim 5 be passed to allowance.

Claims 8, 10, 11, and 13 are dependent upon claim 5, which has been shown allowable above. Therefore, since claims 8, 10, 11 and 13 each introduce additional subject matter that, when considered in the context of the recitations of claim 5, constitute patentable subject matter, Applicants submit that the recitations of claims 8, 10, 11, and 13 are not rendered obvious by the combination of Meyer and Poulsen and respectfully request that claims 8, 10, 11, and 13 be passed to allowance.

Second Claim Rejection Under 35 U.S.C. § 103:

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Meyer (USPN 6,216,719) in view of Poulsen (USPN 4,657,055) in further view of Berrettini, et al. (USPN 4,805,672).

Claim 6 is dependent upon claim 5, which has been shown allowable above. Therefore, since claim 6 introduces additional subject matter that, when considered in the context of the recitations of claim 5, constitute patentable subject matter, Applicants submit that the recitations of claim 6 are not rendered obvious by the combination of Meyer, Poulsen, and Berrettini and respectfully request that claim 6 be passed to allowance.

Third Claim Rejection Under 35 U.S.C. § 103:

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Meyer (USPN 6,216,719) in view of Poulsen (USPN 4,657,055) in further view of Cowen (USPN 5,062,417).

Claim 7 is dependent upon claim 5, which has been shown allowable above. Therefore, since claim 7 introduces additional subject matter that, when considered in the context of the recitations of claim 5, constitute patentable subject matter, Applicants submit that the recitations of claim 7 are not rendered obvious by the combination of Meyer, Poulsen, and Cowen and respectfully request that claim 7 be passed to allowance.

CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the examiner believe a telephone call would expedite the prosecution of the application, he/she is invited to call the undersigned attorney at the number listed below.

It is not believed that any fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

Date: **March 10, 2009**

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